

Listing of Claims:

Claim 1 (currently amended): A projection type display apparatus comprising:

an illumination optical system for radiating illumination light;

a mirror array device for forming an image, which has an arrangement in which a plurality of tiltable pixel mirrors each having a diffraction grating on a surface thereof are arranged in an array, said mirror array device separating said illumination light from said illumination optical system to a plurality of color lights, and reflecting said plurality of color lights to the respective directions different from each others and

a projecting optical system for projecting reflected light which are reflected to predetermined ~~directions~~ direction among said plurality color lights reflected by said mirror array device.

Claim 2 (original): An apparatus according to claim 1, wherein each pixel mirror is not tilted to display black on the projected surface.

Claim 3 (original): An apparatus according to claim 1, wherein the tilt angle of each pixel mirror is maximized to display black on the projected surface.

Claim 4 (original): An apparatus according to claim 1, wherein each pixel mirror is tilted by a predetermined angle to do display black on the projected surface.

Claim 5 (original): An apparatus according to claim 1, wherein said projecting optical system has an aperture which shields, of the reflected light components from said mirror array device, a light component which is not to be projected onto the projected surface.

Claim 6 (original): An apparatus according to claim 1, wherein a color to be displayed on the

projected surface is switched by changing a tilt angle of each pixel mirror.

Claim 7 (original): An apparatus according to claim 1, wherein a color to be displayed on the projected surface is switched between red, green, and blue by changing the tilt angle of each pixel mirror.

Claim 8 (original): An apparatus according to claim 1, wherein
tilt angles of the pixel mirrors have a plurality of angle ranges that do not overlap, and
a color of light to be projected onto the projected surface is switched by switching the
angle range of the tilt angle.

Claim 9 (original): An apparatus according to claim 1, wherein
tilt angles of the pixel mirrors have first, second, third, and fourth angle ranges that do
not overlap,
when the tilt angle falls within the first range, red is displayed on the projected surface,
when the tilt angle falls within the second range, green is displayed on the projected
surface,
when the tilt angle falls within the third range, blue is displayed on the projected surface,
and
when the tilt angle falls within the fourth range, black is displayed on the projected
surface.

Claim 10 (original): An apparatus according to claim 9, wherein gray level display of each color
is performed by changing the tilt angle of each pixel mirror within the first, second, or third
angle ranges.

Claim 11 (original): An apparatus according to claim 1, wherein gray level display of each color

is performed by changing the tilt angle of each pixel mirror.

Claim 12 (original): An apparatus according to claim 1, wherein color display of one pixel is performed by mixing the color light components from the pixel mirrors by time color mixing.

Claim 13 (original): An apparatus according to claim 1, wherein color display of one pixel is performed by mixing the color light components from the plurality of pixel mirrors adjacent to each other.

Claim 14 (original): An apparatus according to claim 1, wherein the diffraction grating is an echelon grating.

Claim 15 (original): An apparatus according to claim 1, wherein in a section perpendicular to a rotational axis in tilting the pixel mirror, the diffraction grating has a staircase shape.

Claim 16 (original): An apparatus according to claim 1, wherein a direction in which light diffracted by the pixel mirror is distributed and a tilt direction of the pixel mirror are in the same plane.

Claim 17 (original): An apparatus according to claim 1, wherein each diffracted light of each color is deflected in a separation direction of each color light component diffracted by the pixel mirror by tilting the pixel mirror.

Claim 18 (currently amended): A mirror array device comprising:

a plurality of tiltable pixel mirrors each having a diffraction grating on each of surfaces thereof, and arranged in an array,

wherein said mirror array device separates illumination light from an illumination optical system to a plurality of color lights, and reflects said plurality of color lights to the respective directions different from each ~~others~~ other so as to form an image.

Claim 19 (original): A device according to claim 18, wherein the diffraction grating is an echelon grating.

Claim 20 (original): A device according to claim 18, wherein a direction in which light diffracted by said pixel mirror is distributed and a tilt direction of said pixel mirror are in the same plane.

Claim 21 (original): A device according to claim 18, wherein each diffracted light of each color is deflected in a separation direction of each color light component diffracted by said pixel mirror by tilting the pixel mirror.

REMARKS

Applicant respectfully request reconsideration of the application in view of foregoing amendments. Applicant notes that the instant amendment is filed prior to the payment of the issue fee in this matter. The applicant believes that the aforementioned amendments do not change the status of claims now on file. No new mater has been introduced. Amendments were made solely for the purpose of correcting grammar.

In the event that a telephone conference would facilitate examination of this application in any way, the Examiner is invited to contact the undersigned representative at the number provided.

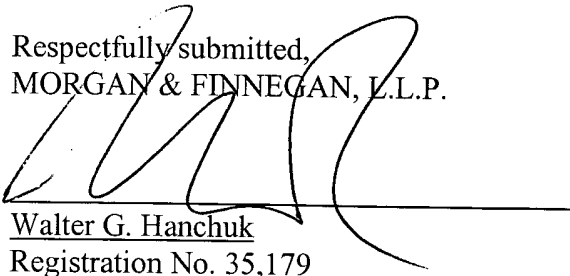
AUTHORIZATION

Applicants believe no fees or extensions of time are required for this Amendment. However, should an extension of time be necessary to render this Amendment timely filed, such extension is hereby petitioned. The Commissioner is hereby authorized to charge any additional fees which may be required for the timely consideration of this amendment under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to Deposit Account No. 13-4500, Order No. 1232-4780.

Respectfully submitted,
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Dated: October 9, 2003

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